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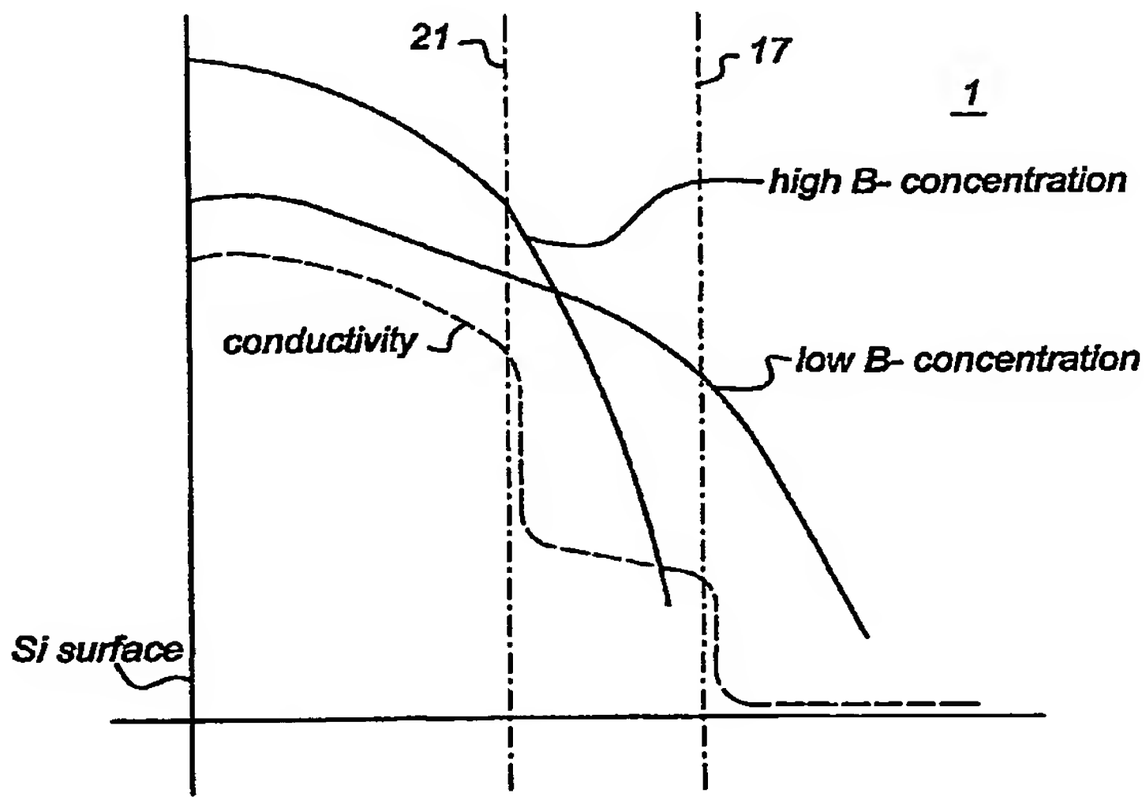
(54) Title: A SEMICONDUCTOR SUBSTRATE WITH SOLID PHASE EPITAXIAL REGROWTH WITH REDUCED JUNCTION LEAKAGE AND METHOD OF PRODUCING SAME



(57) Abstract: Method of producing a semiconductor device, comprising: a) providing a semiconductor substrate, b) making a first amorphous layer in a top layer of the semiconductor substrate by a suitable implant, the first amorphous layer having a first depth, c) implanting a first dopant into the semiconductor substrate to provide the first amorphous layer with a first doping profile, d) applying a first solid phase epitaxial regrowth action to partially regrow the first amorphous layer and form a second amorphous layer having a second depth that is less than the first depth and activate the first dopant, e) implanting a second dopant into the semiconductor substrate to provide the second amorphous layer with a second doping profile with a higher doping concentration than the first doping profile, f)applying a second solid phase epitaxial regrowth action to regrow the second amorphous layer and activate the second dopant.

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